IN THE CLAIMS

Please cancel claims 8 and 21.

Please amend the claims as follows:

1. [Original] A method for assembling a rotating X-ray tube, the X- ray tube having a cathode for emitting electrons, and a rotor and a bearing assembly for facilitating rotation of an anode, the method comprising:

using interference fit assembly between the bearing assembly and the rotor to provide a joint having balance retention;

wherein the using interference fit assembly further includes:

selecting a shaft of the bearing assembly;

selecting a rotor hub of said rotor having a coefficient of thermal expansion which matches a higher coefficient of thermal expansion of the rotor to a lower coefficient of thermal expansion of said shaft;

configuring said shaft and an aperture in said rotor hub to interference fit tolerances; and

joining said shaft to said rotor hub providing said joint having balance retention.

2. [Original] The method in claim 1, wherein said joining said shaft to said rotor rub includes heating said rotor hub to facilitate positioning of components of the X-ray tube.

3. [Original] The method in claim 1, wherein said joining said shaft to said rotor rub includes cooling said shaft to facilitate positioning of components of the X-ray tube.

4. [Original] The method of claim 1, wherein said joining is completed using means for shrink fit, said means for shrink fit is configured for carrying operational loads on the joint without a need for mechanical or metallurgical fasteners.

5. [Currently amended] An anode assembly for an x-ray tube comprising:

a rotor body assembly including a rotor and a stator, the stator being operatively positioned relative to the rotor body assembly;

a target, operatively positioned relative to the cathode assembly, operatively connected to a bearing assembly by a thermal barrier; and

means, including a rotor hub operatively positioned within the rotor, coaxially aligned with a shaft extending from the bearing assembly, for operatively connecting the shaft of the bearing assembly to the rotor hub of the rotor body assembly, the rotor hub having a coefficient of thermal expansion which matches a higher coefficient of thermal expansion of the rotor to a lower coefficient of thermal expansion of the shaft.

6. [Original] The anode assembly of claim 5, wherein said means includes fastening without using mechanical fasteners or metallurgical bonding.

7. [Currently amended] The anode assembly of claim 5, wherein ~~the~~ a thin-walled tubular stem operatively supports said shaft between two center loaded bearings, each bearing disposed at opposite ends of the tubular stem.

8. [Canceled]

9. [Currently amended] The anode assembly of claim 5, wherein the rotor hub is comprised of a nickel-cobalt-iron alloy~~Incoloy 909~~.

10. [Currently amended] An x-ray system comprising;

an enclosure;

at least one cooling means, operatively connected to the enclosure, for cooling the system;

an x-ray tube, operatively positioned inside the enclosure, for directing x-rays toward a target, the x-ray tube comprising:

an envelope;

a cathode, operatively positioned in the envelope;

an anode assembly including:

a rotor body assembly including a rotor and a stator, the stator being operatively positioned relative to the rotor body assembly;

a target, operatively positioned relative to the cathode assembly, operatively connected to a bearing shaft by means of a thin-walled tubular thermal barrier; and

a target/bearing assembly to the rotor body assembly connection structure, operatively positioned for operatively connecting the target/bearing assembly to the rotor body assembly, wherein the target/bearing assembly to the rotor body assembly connection structure further comprises, including shrink fit means, operatively positioned between the target/bearing assembly and the rotor body assembly, for operatively connecting the target/bearing assembly to the rotor body assembly, the shrink fit means having a coefficient of thermal expansion which matches a higher coefficient of thermal expansion of the rotor body assembly to a lower coefficient of thermal expansion of the target/bearing assembly.

11. [Currently amended] The x-ray system of claim 10, wherein the target/bearing assembly to the rotor body assembly connection structure further comprises:

a shaft operatively positioned between the large bore, thin- walled tubular thermal barrier and operatively supported by opposing bearings mounted with a~~the~~ thin-walled tubular stem; and

a rotor hub operatively positioned in the rotor body assembly, the rotor hub having an aperture configured to receive said shaft and form an interference /shrink fit engagement.

12. [Original] The x-ray system of claim 11, wherein the rotor hub material is selected to match coefficients of thermal expansion between the bearing shaft and the rotor body assembly enabling operational loads to be carried by the shrink fit without any other means.

13. [Currently amended] The x-ray tube of claim 11, wherein the rotor hub comprises a nickel-cobalt-iron alloy~~Incoloy 909~~.

14. [Currently amended] An anode assembly for an x-ray tube comprising:

a rotor body assembly including a rotor and a stator, the stator being operatively positioned relative to the rotor body assembly; and

a target, operatively positioned relative to a~~the~~ cathode assembly, operatively connected to a thin-walled tubular thermal barrier to form a target/bearing assembly, and

a target/bearing assembly to the rotor body assembly connection structure, operatively positioned between the target/bearing assembly and the rotor body assembly, for operatively connecting the target/bearing assembly to the rotor body assembly, wherein the target/bearing assembly to the rotor body assembly connection structure further comprises:

a shaft operatively positioned between the large bore, thin- walled tubular thermal barrier and operatively supported by opposing bearings mounted with a~~the~~ thin-walled tubular stem; and

a rotor hub operatively positioned in the rotor body assembly, the rotor hub having an aperture configured to receive said shaft and form an interference/shrink fit engagement, wherein the material for the rotor hub is selected to match coefficients of thermal expansion between the rotor body assembly and the bearing shaft enabling operational loads to be carried by the shrink fit without any other means.

15. [Original] The anode assembly of claim 14, wherein the material selected for the rotor hub is selected to match a higher coefficient of thermal expansion of the rotor with a lower coefficient of thermal expansion of the shaft.

16. [Currently amended] A rotating anode assembly for an X-ray tube such rotating anode assembly being one of the type which includes an anode target and a cylindrical rotor means therefore, such rotor means having (a) an axis, (b) means responsive to circumferentially applied electromagnetic force causing said rotor means to rotate about such axis, and (c) bearing means functionally associated therewith and adapting said rotor means for rotational movements relative to said bearing means, said bearing means including contact portions for applying during such rotational movements an electron accelerating potential to said target comprises:

a shaft axially extending from one end of said bearing means and terminating forwardly in an axial projection configuration, said shaft being rotationally associated with said rotor means and rotatable therewith,

said target having a generally disc-shaped body and being coaxial with said axis, said target having radially tapered surface portions on one face thereof adjacent the circumferential periphery of said target, said surface portions being adapted to convert incident electron energy striking same in an axially parallel direction into X-ray energy emitted therefrom at a predetermined angle relative to said incident electron energy, and further having an axial projection extending from the opposed face thereof,

said axial projection being shrink fitted with a coaxially located rotor hub disposed within said rotor means, said rotor hub having a coefficient of thermal expansion which matches a higher coefficient of thermal expansion of said rotor means to a lower coefficient of thermal expansion of said axial projection.

17. [Original] The anode assembly of claim 16, wherein at room temperature said rotor hub has an aperture configured to receive said axial projection, said aperture is cylindrical having a diameter smaller than an outside diameter of said axial projection.

18. [Currently amended] The anode assembly of claim 17~~6~~, wherein at room temperature said aperture of said hub is defined by an entry chamfer extending to a first inner cylinder wall that further extends to a second inner cylinder wall, wherein said first inner cylinder wall has a diameter smaller than said second inner cylinder wall.

19. [Currently amended] The anode assembly of claim 16 wherein said rotor hub is comprised of a metal selected to cause a composite coefficient of thermal expansion of the rotor match that of said axial projection~~shaft~~.

20. [Currently amended] The anode assembly of claim 16 wherein said rotor hub is comprised of a nickel-cobalt-iron alloy~~Incoloy 909~~.

21. [Canceled]

22. [Currently amended] An x-ray tube comprising:~~The x-ray tube of claim 21,~~

an envelope;

a cathode assembly, operatively positioned in the envelope;

an anode assembly including:

a rotor body assembly including a rotor and a stator, the stator being operatively positioned relative to the rotor body assembly; and

a target, operatively positioned relative to the cathode assembly, operatively connected to a thin-walled tubular thermal barrier to form a target/bearing assembly, and

a target/bearing assembly to the rotor body assembly connection structure, operatively positioned between the target/bearing assembly and the rotor body assembly, for operatively connecting the target/bearing assembly to the rotor body assembly, wherein the target/bearing assembly to the rotor body assembly connection structure further comprises, including shrink fit means, operatively positioned between the target/bearing assembly and the rotor body assembly, for operatively connecting the target/bearing assembly to the rotor body assembly

wherein the target/bearing assembly to the rotor body assembly connection structure further comprises:

a shaft operatively positioned between the thin- walled tubular thermal barrier and operatively supported by opposing bearings mounted with athe thin-walled tubular stemthermal barrier; and

a rotor hub operatively positioned in the rotor body assembly, the rotor hub having an aperture configured to receive said shaft and form an interference /shrink fit engagement.

23. [Original] The x-ray tube of claim 22, wherein the materials selected for the rotor hub is selected to match a higher coefficient of thermal expansion of the rotor with a lower coefficient of thermal expansion of the shaft enabling operational loads to be carried by the shrink fit without any other means.

24. [Currently amended] The x-ray tube of claim 22, wherein the rotor hub comprises a nickel-cobalt-iron alloy~~Incoloy 909~~.